3.3.8.13 Shrub-carr

3.3.8.13.1 Community Overview

This wetland community is dominated by tall shrubs such as red-osier dogwood, silky dogwood, meadowsweet, and various willows. Canada bluejoint grass is often very common. Associates are similar to those found in alder thickets and tussock-type sedge meadows. This type occupies areas that are transitional between open wetlands such as wet prairie, calcareous fen, or southern sedge meadow, and forested wetlands such as floodplain forest or southern hardwood swamp. Shrub-carr can persist at a given site for a very long time if natural hydrologic cycles are maintained. This type often occurs in bands around lakes or ponds, on the margins of river floodplains, or, more extensively, in glacial lakebeds. It is common and widespread in southern Wisconsin but also occurs in the north. In the south, shrub-carr was often an integral part of prairie-savanna landscapes, though it also occurred in wetlands within more forested regions. In the north, the landscape matrix around the shrub-carr type was usually upland forest. Statewide, shrub-carr remains quite common, and has fared considerably better than many of the other native wetland types within its range.

Past drainage and marsh hay mowing likely had a negative effect on shrub-carr, whereas clearing of conifer swamps likely produced more of this habitat. Once fire was controlled and hay mowing was discontinued in lowland meadows, shrub-carr likely increased in extent. Drainage of meadows and marshes has also allowed shrub-carr habitats to increase in some areas. As a result of wetland drainage and fire suppression, shrub-carr now occupies many sites that formerly supported much more extensive marsh, wet meadow, prairie, and fen vegetation, and therefore, it is sometimes targeted for elimination. However, it is an important native wetland type that has its place on our landscape and should be protected, managed, and restored at appropriate locations.

3.3.8.13.2 Vertebrate Species of Greatest Conservation Need Associated with Shrub-Carr

Twenty-seven vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with shrub-carr (Table 3-204).

Table 3-204. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with shrub-carr communities.

Species Significantly Associated with Shrub-Carr
Birds
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Veery
Golden-winged Warbler
Herptiles
Four-toed Salamander
Wood Turtle
Queen Snake
Butler's Garter Snake
Western Ribbon Snake
Eastern Massasauga Rattlesnake
Mammals
Moose
Species Moderately Associated with Shrub-Carr
Birds
Yellow-crowned Night Heron
Yellow-billed Cuckoo
Short-eared Owl
Bell's Vireo
Blue-winged Warbler
Rusty Blackbird
Herptiles
Pickerel Frog
Mink Frog
Blanding's Turtle
Northern Ribbon Snake
Mammals
Northern Long-eared Bat
Silver-haired Bat
Eastern Red Bat
Hoary Bat
Gray Wolf

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-204 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both shrub-carr and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of shrub-carr in each of the Ecological Landscapes (Tables 3-205 and 3-206).

- Using the analysis described above, a species was further selected if it had both a significant association with shrub-carr and a high probability of occurring in an Ecological Landscape(s) that

represents a major opportunity for protection, restoration and/or management of shrub-carr. These species are shown in Figure 3-51.

Table 3-205. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with shrub-carr communities and their association with Ecological Landscapes that support shrub-carr.

Shrub Carr	Birds (5)*					Herptiles (6)						Mammals (1)
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	American Woodcock	Black-billed Cuckoo	Willow Flycatcher	Veery	Golden-winged Warbler	Four-toed Salamander	Wood Turtle	Queen Snake	Butler's Garter Snake	Western Ribbon Snake	Eastern Massasauga Rattlesnake	Moose
MAJOR												
Central Sand Hills	■	■	■	■	■	■						
Central Sand Plains	■	■	■	■	■	■	■				■	
Northern Lake Michigan Coastal	■	■	■	■	■	■	■					
Southeast Glacial Plains	■	■	■	■	■	■		■	■		■	
Western Coulee and Ridges	■	■	■	■		■	■				■	
IMPORTANT												
Central Lake Michigan Coastal	■	■	■	■	■	■	■		■			
Forest Transition	■	■		■	■	■	■					
North Central Forest	■	■		■	■	■	■					■
Northern Highland	■			■	■	■	■					■
Southern Lake Michigan Coastal	■	■	■					■	■		■	
Superior Coastal Plain	■	■		■	■	■	■					■
PRESENT (MINOR)												
Northeast Sands	■	■		■	■	■	■					
Northwest Lowlands	■	■		■	■	■	■					■
Northwest Sands	■	■		■	■	■	■					
Southwest Savanna		■	■									
Western Prairie	■		■	■			■					

Color Key

■ = **HIGH probability the species occurs in this Ecological Landscape**

■ = **MODERATE probability the species occurs in this Ecological Landscape**

□ = **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Table 3-206. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with shrub-carr communities and their association with Ecological Landscapes that support shrub-carr.

Shrub Carr	Birds (6)*						Herptiles (4)				Mammals (5)				
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Yellow-crowned Night-Heron	Yellow-billed Cuckoo	Short-eared Owl	Bell's Vireo	Blue-winged Warbler	Rusty Blackbird	Pickerel Frog	Mink Frog	Blanding's Turtle	Northern Ribbon Snake	Northern Long-eared Bat	Silver-haired Bat	Eastern Red Bat	Hoary Bat	Gray Wolf
MAJOR															
Central Sand Hills		H	M		H	M	M		H		M	M	M	M	M
Central Sand Plains		H	H		H	M	M		H		M	M	M	M	H
Northern Lake Michigan Coastal		M			M	M	M	H	M		M	M	M	M	M
Southeast Glacial Plains	M	H	H	M	H	H	H		H	H	M	M	M	M	
Western Coulee and Ridges	H	H	M	H	H	H	H		H		H	M	M	M	
IMPORTANT															
Central Lake Michigan Coastal	M	M	M		M	M	M		M	H	M	M	M	M	
Forest Transition		M			M	M	M				M	M	H	M	M
North Central Forest						M	M	H			M	H	M	H	H
Northern Highland						M		H					M		H
Southern Lake Michigan Coastal	M	M	M	M	M	M			H						
Superior Coastal Plain						M	M	H			M	M	M	M	H
PRESENT (MINOR)															
Northeast Sands						M	M	H	M						M
Northwest Lowlands						M	M	H			M	M	M	M	H
Northwest Sands					M	M	M	M	H						H
Southwest Savanna		M	H	H	M	M	H		H		M		M		
Western Prairie			M		H	M	M		H						

Color Key

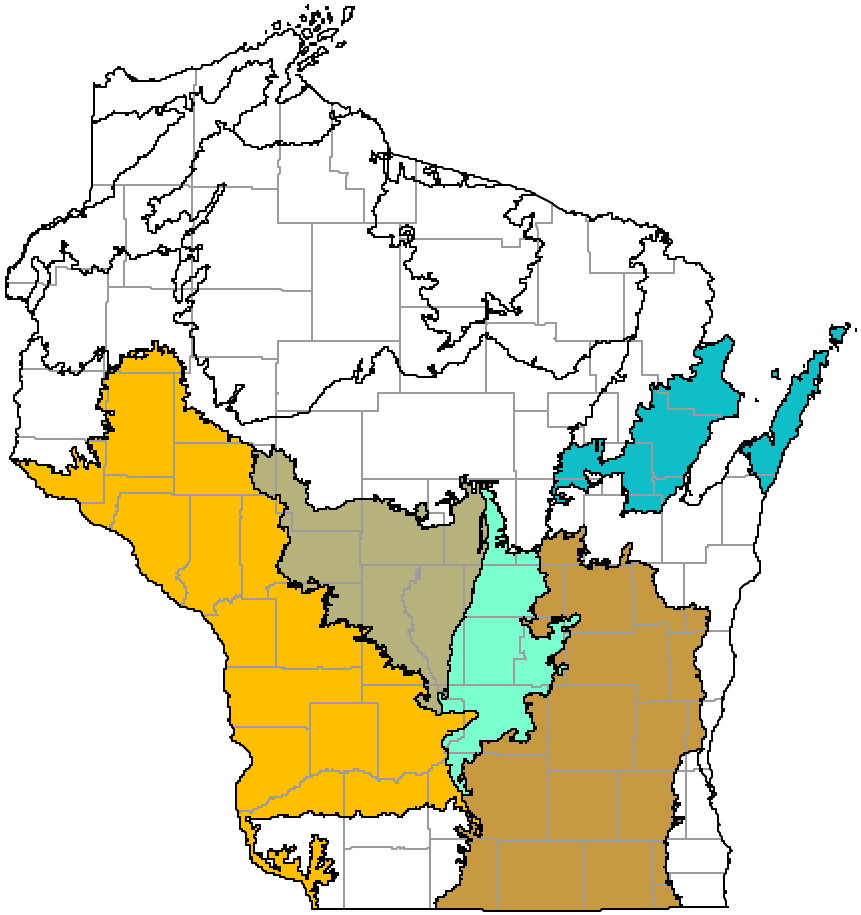
H = **HIGH probability the species occurs in this Ecological Landscape**

M = **MODERATE probability the species occurs in this Ecological Landscape**

= **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Figure 3-51. Vertebrate Species of Greatest Conservation Need that have *both* a significant association with shrub-carr *and* a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of shrub-carr.



Central Sand Hills
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Veery

Central Sand Plains
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Veery
Golden-winged Warbler
Four-toed Salamander
Wood Turtle

Northern Lake Michigan Coastal
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Veery
Wood Turtle

Southeast Glacial Plains
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Four-toed Salamander
Queen Snake
Butler's Garter Snake
Eastern Massasauga Rattlesnake

Western Coulees and Ridges
American Woodcock
Black-billed Cuckoo
Willow Flycatcher
Veery
Four-toed Salamander
Wood Turtle
Eastern Massasauga Rattlesnake

3.3.8.13.3 Threats and Priority Conservation Actions for Shrub-Carr

3.3.8.13.3.1 Statewide Overview of Threats and Priority Conservation Actions for Shrub-Carr

The following list of threats and priority conservation actions were identified for shrub-carr in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.8.13.3.2 unless otherwise indicated.

Threats and Issues

- Invasive exotic plants are a problem, especially reed canary grass and glossy buckthorn. Both of these species can out-compete native species.
- Altered hydrology, caused by lowering or raising water levels from road construction, residential development, agricultural drainage, beaver activity, or impoundment creation for flowages, can be detrimental to this type.
- Sedimentation and pollution from surrounding agricultural areas can lead to changes in plant composition and encourage invasive plants.
- Grazing often leads to the increase of or conversion to a reed canary grass-dominated monotypic understory.

Priority Conservation Actions

- Maintain or restore existing degraded sites of this community type. Key management factors are the protection of site hydrology and control of invasive plants.
- Entire river corridors and lacustrine depressions should be protected and sustained along a vegetational gradient from open water to various lowland communities, into uplands.
- Control runoff from surrounding agricultural areas that may contribute nutrients and sediments, which can reduce habitat suitability for native plants and animals and benefit invasives.
- Use buffers within floodplains to prevent sedimentation and limit nonpoint pollution.
- Limit grazing to prevent conversion to a reed canary grass understory.
- Maintain beaver populations at appropriate levels.
- Obtain more information on how to manage this community type, and the wetland mosaic of which it is usually a component.
- The practice of creating impoundments to benefit waterfowl can conflict with the protection of other wetland types, including shrub-carr. Landscape level assessments of conservation need and representation of the native communities occurring within protected areas would help.
- Additional work is needed on the sampling and classification of lowland shrub communities, especially in the northern part of the state. In some areas (e.g., western part of the Superior Coastal Plain Ecological Landscape), alder and willows co-occur and often appear to be co-dominant. In other areas, tall shrub communities consist of bog birch, winterberry holly, and viburnums, rather than speckled alder, or combinations of willows and dogwoods. In the south, sloughs and oxbow lakes associated with large floodplain systems are sometimes bordered by extensive thickets of buttonbush.

3.3.8.13.3.2 Additional Considerations for Shrub-Carr by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of shrub-carr exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for shrub-carr found in Section 3.3.8.13.3.1.

Additional Considerations for Shrub-Carr in Ecological Landscapes with ***Major*** Opportunities for Protection, Restoration, and/or Management of Shrub-carr

Central Sand Hills

Examples of shrub-carr can be found at the Germania Marsh State Wildlife Area, Lawrence Creek State Wildlife Area, and Harris Marsh in Marquette County. Beaver populations should be maintained at an appropriate level in this Ecological Landscape to prevent conversion of shrub-carr communities.

Central Sand Plains

Examples of this community type can be found at Quincy Bluff and Wetlands State Natural Area, Colburn State Wildlife Area, Meadow Valley State Wildlife Area, and many additional locations on other public lands. In this Ecological Landscape there is the potential to manage this community type in very large wetland complexes with northern sedge meadow, open bog, poor fen, alder thicket, and tamarack swamp. Beaver populations should be maintained at an appropriate level in this Ecological Landscape to prevent conversion of shrub-carr communities. Hydrologic alterations are pervasive in this landscape, especially ditching and impoundment construction. More care needs to be taken to ensure that many good examples of this and other native wetland communities are protected from type conversion, degradation, or outright loss.

Northern Lake Michigan Coastal

Examples of this community type can be found at the Green Bay West Shores State Wildlife Area, the Lake Noquebay Wildlife Area, and at various locations on the Door Peninsula. Beaver populations should be maintained at an appropriate level in this Ecological Landscape to prevent conversion of shrub-carr communities. In the past, residential development has tended to encroach on wetlands during periods of low water. Maintenance of healthy wetland ecosystems and all of their associated communities is highly dependent on maintaining them during both high and low water. Shoreline development is an especially important land use issue here.

Southeast Glacial Plains

Examples of this community type can be found at Cedarburg Bog (Ozaukee County), Cherokee Marsh (Dane County), White River Marsh State Wildlife Area, Mullet Lake Swamp (Fond du Lac County), and at scattered locations within the Southern Unit of the Kettle Moraine State Forest. Drainage for agriculture, grazing, and conversion to reed canary grass monotypes are significant problems in this Ecological Landscape. Efforts to limit these activities would be beneficia l. This is a widespread and common type here and would appropriately be featured in regional wetland protection and habitat restoration plans.

Western Coulee and Ridges

Most occurrences of this type are associated with floodplains of the major rivers. Examples can be found at Tiffany Bottoms State Wildlife Area (Buffalo County), Upper Mississippi River Fish and Wildlife Refuge, Avoca Prairie State Natural Area (Iowa County), and along the Lower Wisconsin State Riverway.

Additional Considerations for Shrub-Carr in Ecological Landscapes with ***Important*** Opportunities for Protection, Restoration, and/or Management of Shrub-carr

Central Lake Michigan Coastal

Examples of this community type can be found at Duvall Swamp (Kewaunee County), Kohler-Andrae State Park (Sheboygan County), and Mud Lake (Waupaca County). Shrub-carr habitat should be maintained where it exists.

Forest Transition

Examples of this community type can be found at Ninemile Swamp (Marathon County) and along the Wisconsin River and its tributaries.

North Central Forest

Examples of this community type can be found at locations within the Chequamegan-Nicolet National Forest, and on other public lands such as the Lincoln and Ashland County Forests. Alder thicket is the more common wet shrub community in this landscape. Invasives are not a large problem at present, but should be monitored. Beaver populations should be maintained at an appropriate level in this Ecological Landscape to prevent conversion of shrub-carr communities.

Southern Lake Michigan Coastal

Shrub-carr occurs at Chiwaukee Prairie State Natural Area (Kenosha County), at Cherry Lake Sedge Meadow (Racine County), at Bong State Recreation Area, and along the Des Plaines River. It is not a featured community at any of these locations, but exists as a component of a community mosaic.

Superior Coastal Plain

Examples of this community type can be found at Bibon Swamp State Natural Area (Bayfield County) and in the Superior Municipal Forest (Douglas County). Beaver populations should be maintained at an appropriate level in this Ecological Landscape to prevent conversion of shrub-carr communities. Most of the shrub swamp acreage in this Ecological Landscape is alder thicket.